

CHAPTER 140 INSPECT FOREIGN NON-FEDERAL LOCATED GROUND NAVIGATIONAL AIDS

Section 1 Background

1. PTRS ACTIVITY CODES

- Avionics: 5434

3. OBJECTIVE. This chapter provides guidance for inspecting a foreign-located non-federal ground navigational aid used by U.S.-certificated air carriers.

5. GENERAL

A. In assessing the operational services a facility is required to provide, such as en route navigation, approach procedures, air traffic control procedures, etc., an Avionics Aviation Safety Inspector (ASI), should accomplish the following:

- Evaluate the organization in charge of the maintenance and operation of the facility
- Physically inspect the facility itself, if deemed necessary

B. *Exceptions*

(1) It is not necessary to physically inspect navigational aids owned and operated by a foreign government. The adequacy, performance, and reliability of such navigational aids may be evaluated by other means, such as:

- Past performance history
- En route inspections
- Discussions with air carriers and government personnel having individual knowledge of the facilities

(2) Navigational aids owned and operated by foreign governments should not be physically inspected

except by arrangement with, or permission of, the aviation officials of the government concerned.

C. *Scheduling the Inspection.* The ASI's knowledge of the operator or facility owner should help determine if advance notice should be given of a proposed inspection. Advance notice is advisable to ensure full cooperation of the licensee. In addition, where the facility is foreign-owned and operated, the ASI should contact the Civil Air Authority (CAA) responsible for the facility, prior to the facility inspection.

D. *Performing the Inspection*

(1) To ensure the continuing reliability of the station, the following criteria should be considered in determining the extent of the inspection:

- Adequacy of the station's operating and maintenance manuals
- Station records, including periodic inspection and maintenance visits, and previous station inspection reports
- Cleanliness and orderliness of the equipment

(2) Discussions with personnel in charge of the operation and/or maintenance of the facility are important to the ASI in determining the following:

- Competency of personnel
- Adequacy of maintenance equipment and supplies
- Overall reliability of the performance of the facility

(3) A review of the operator's records for the station will assist the ASI in determining the reliability of the inspection and maintenance program.

(4) During the actual facility inspection, the ASI should observe the operation to determine if the equipment is operating within dictated tolerances. A comparison should be made between the actual performance and known limitations/prescribed performance values.

(5) Accurate and reliable operation of the facility's monitor is vital to the overall effectiveness of the operation. When making a determination as to the continuing reliability of the facility the ASI should evaluate the following:

- The type of monitor, automatic or simple receiver
- The type of malfunctions which will cause it to alarm or change over
- The location of the station

- The personnel responsible for monitoring the station
- The procedures, instructions, or actions to be taken should the station malfunction

(6) While inspecting the station, the ASI may request the operator's personnel to perform station functions, such as switching operations or adjustments, to demonstrate the proper performance of the station.

(a) Some functions that should be requested include activating standby units and auxiliary power supplies unless station records show that such switching operations and adjustments have been conducted recently.

(b) Under no circumstances should the ASI make any adjustments or perform any switching operations.

Section 2 Procedures

1. PREREQUISITES AND COORDINATION REQUIREMENTS

A. Prerequisites

- Knowledge of the regulatory requirements of FAR Parts 121 and 135
- Successful completion of Airworthiness Inspector's Indoctrination Course for General Aviation and Air Carrier Inspections, or previous equivalent
- Experience with the equipment being inspected

B. *Coordination.* This task requires coordination with the following:

- Operations ASIs
- Regional and district offices, as appropriate

- U.S. Embassy and the Civil Air Authority (CAA) of the country involved

3. REFERENCES, FORMS, AND JOB AIDS

A. References

- Order 6700.20, Non-Federal Navigational Aids and ATC Facilities

B. *Forms.* None.

C. *Job Aids.* None.

5. PROCEDURES

A. Schedule the Inspection

(1) Coordinate the inspection with the operator, if determined necessary.

(2) Coordinate the inspection with the U.S. Embassy and the CAA of the country involved, if applicable.

B. *Perform the Inspection*

(1) Inspect the nondirectional beacons, to include:

(a) Aurally monitoring the identification signals to ensure proper operation of the keying device

(b) Ensuring that the current and modulation percentage indications are within prescribed tolerances

(c) Ensuring that the equipment, antennas, and associated hardware are in acceptable operating condition

(2) Inspect the omniranges (VOR), to include:

(a) Ensuring that the foliage in the immediate area of the station does not affect service area radial accuracy

(b) Evaluating the condition and security of transmitters, auxiliary equipment, antenna systems, monitors, and power supplies

(c) Ensuring that power/telephone lines, metal buildings, and towers or fences within 1200 feet of a VOR facility do not affect the performance of the facility by creating scalloping or altering course alignment

(3) Inspect the Localizer and Glide Slope, to include:

(a) Ensuring that the foliage in the immediate area of the station does not affect the service area radial accuracy

(b) Evaluating the condition and security of transmitters, auxiliary equipment, antenna systems, monitors, and power supplies

(c) Ensuring that power/telephone lines, metal buildings, and towers or fences within 1200 feet of a VOR facility do not affect the performance of the facility by creating scalloping or altering course alignment

(4) Inspect the Seventy-five Megahertz Markers to include:

(a) Aurally monitoring the identification signals to ensure proper operation of the keying device

(b) Ensuring that the current and modulation percentage indications are within prescribed tolerances

(c) Ensuring that the equipment, antennas, and associated hardware are in acceptable operating condition

(d) Determining if deterioration or damage to the antenna array or counterpoise has occurred

(e) Determining if high weeds and foliage in the immediate area of the antenna and counterpoise are affecting the radiated pattern

(5) Inspect the Four-Course Ranges, to include:

(a) Aurally monitoring the identification signals to ensure proper operation of the keying device

(b) Ensuring that the current and modulation percentage indications are within prescribed tolerances

(c) Ensuring that the equipment, antennas, and associated hardware are in acceptable operating condition

(6) Inspect the Ground-Controller Approach Radar, Airport Surveillance Radar (ASR), Precision Approach Radar (PAR), and ground-controller approach ground-air-ground communication link, to include:

(a) Ensuring that the equipment and housing are in acceptable operating condition

(b) Evaluating the condition and security of antennas, wave-guides, transmitters, receivers, control consoles, etc.

(c) Evaluating the evidence of deterioration and wear on the antennas and antenna operating mechanisms

(d) Ensuring accurate alignment of the antenna operating mechanisms

(e) Ensuring the accurate alignment of the evaluation and azimuth antennas of the Precision Approach Radar in relation to the visual presentation

C. Analyze Discrepancies

(1) Advise the air carrier using the facility, in writing, of any major discrepancies noted.

(2) Discuss minor discrepancies with the personnel directly in charge of the facility.

NOTE: Discrepancies noted during the inspection of a navigational aid, owned and operated by a foreign government, will normally be corrected through the air carrier using the facility. In some cases, however, it may be advisable to seek corrective action by dealing with CAA of the government involved.

7. TASK OUTCOMES

A. File PTRS Transmittal Form

B. Successful completion of this task may result in the following:

(1) Coordination with the assigned Operations ASI in determining whether operational restrictions or alternate procedures should be required of the air carrier pending correction of the discrepancies

(2) Distribution of a narrative report in accordance with established procedures

C. Document Task. File all supporting paperwork in the air carrier's office file.

9. FUTURE ACTIVITIES. None.